A9175-14

annual data 1992

COPPER • BRASS • BRONZE

copper supply & consumption

1971-1991

COPPER DEVELOPMENT ASSOCIATION INC.

Preface

Statistical data on the supply and consumption of copper and copper alloys in the United States are available from many governmental and private sources. In this report original data from these sources are brought together and rationalized by CDA and American Bureau of Metal Statistics Inc. (ABMS) to provide a set of data on U.S. copper supply and consumption that is both consistent and accurate in all aspects from mine to end-use market.

The main sources of information assembled here are the Bureau of Mines in the U.S. Department of the Interior, the Bureau of the Census in the U.S. Department of Commerce, and Copper Development Association Inc. Where data from different sources are conflicting, and where original data appear to be in error, the best judgment has been applied. General sources are shown in the tables throughout the report. Those interested to know the specific sources of any of the data should contact CDA.

The statistics are arranged in a logical sequence to trace the flow of copper in the U.S. economy from mining and scrap collection through smelting, refining and ingot making to the wire rod and wire mills, brass mills, and foundries and then on to the final end-use markets. This flow is shown schematically on pages 4-5. On this schematic flowsheet the major statistics of copper supply and consumption in the United States for 1991 appear. Along with each major statistic on the chart, a reference is shown. This reference identifies the table in the report where details on that item, from 1971 through 1991, will be found. Most data for 1991 are preliminary.

There are four major tables in the report. *Table 1* covers the supply of primary copper. *Table 2* presents data on the supply of copper from secondary sources. In *Table 3*, statistics on the consumption of primary and secondary metals by mills, foundries and other industries are summarized. These three tables are provided by ABMS. Finally, *Table 4* details the supply of mill, foundry and powder products and their consumption in the five end-use market areas. In each of these tables, additions to the flow (such as net imports) are indicated as positive numbers, while subtractions from the flow (such as melting losses or net additions to stocks) are shown as negative numbers.

The arrangement of the data in the report can be illustrated with an example. Consider *Mine Production*, the upper left-hand box in the flowsheet on page 4. As shown in the box, mine production of copper in the United States totaled 1,802.5 thousand short tons in 1991. Beneath this figure a number appears referring to *Table 1, Item 1*, abbreviated *1 (1)*. This means that in *Table 1*, on Line (1), mine production is shown for the full period 1971 through 1991. In *Table 1*, on Line (1), a further reference will be found after the item heading *Mine Production*, directing the reader to page 7. This reference means that further details on mine production appear on page 7. In fact, on page 7, a table entitled *Table 1, Item 1* presents the data on mine production by state for 1971 through 1991. In this way all the data on supply and consumption appear in logical sequence proceeding through the report, eliminating the need for explanatory text.

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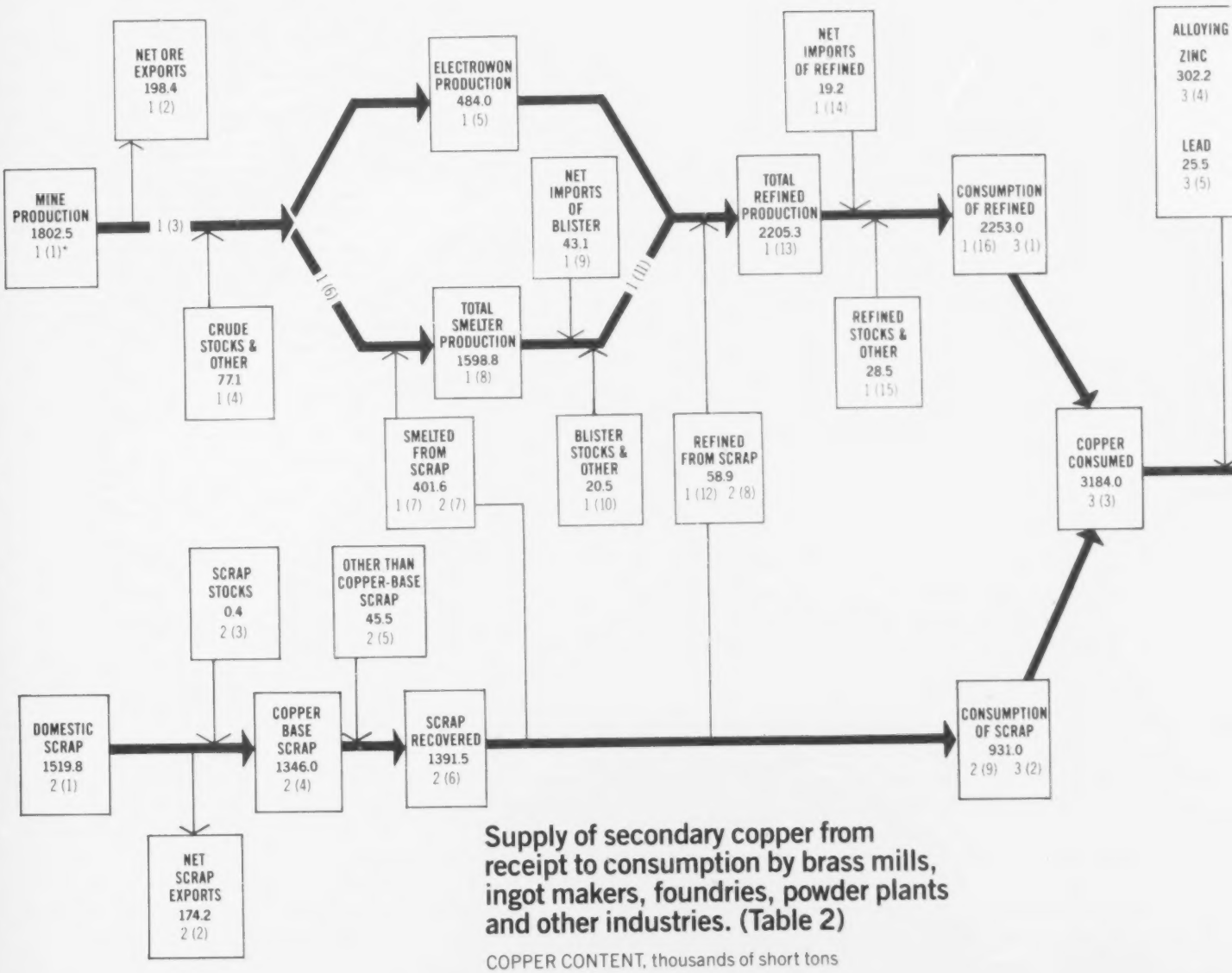
Copper supply and consumption in the United States 1991

Supply of primary copper from mine to consumption by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries. (Table 1)

COPPER CONTENT, thousands of short tons


NET ORE EXPORTS 198.4 1 (2)
ELECTROWON PRODUCTION 484.0 1 (5)
NET IMPORTS OF REFINED 19.2 1 (14)
ALLOYING
ZINC 302.2 3 (4)
LEAD 25.5 3 (5)
MINE PRODUCTION 1802.5 1 (1)*
1 (3)
NET IMPORTS OF BLISTER 43.1 1 (9)
TOTAL REFINED PRODUCTION 2205.3 1 (13)
CONSUMPTION OF REFINED 2253.0 1 (16) 3 (1)
1 (6)
1 (11)
CRUDE STOCKS & OTHER 77.1 1 (4)
TOTAL SMELTER PRODUCTION 1598.8 1 (8)
REFINED STOCKS & OTHER 28.5 1 (15)
SMELTED FROM SCRAP 401.6 1 (7) 2 (7)
BLISTER STOCKS & OTHER 20.5 1 (10)
REFINED FROM SCRAP 58.9 1 (12) 2 (8)
COPPER CONSUMED 3184.0 3 (3)
SCRAP STOCKS 0.4 2 (3)
OTHER THAN COPPER-BASE SCRAP 45.5 2 (5)
DOMESTIC SCRAP 1519.8 2 (1)
COPPER BASE SCRAP 1346.0 2 (4)
SCRAP RECOVERED 1391.5 2 (6)
CONSUMPTION OF SCRAP 931.0 2 (9) 3 (2)
NET SCRAP EXPORTS 174.2 2 (2)

Supply of secondary copper from receipt to consumption by brass mills, ingot makers, foundries, powder plants and other industries. (Table 2)

COPPER CONTENT, thousands of short tons

*1 (1) Refers to table and item in report where data for 1971 through 1991 appear.

Consumption of metals by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries. (Table 3)

METAL CONTENT, thousands of short tons

Supply of wire mill, brass mill, foundry and powder products and their consumption in the end-use markets. (Table 4)

METAL CONTENT, millions of pounds

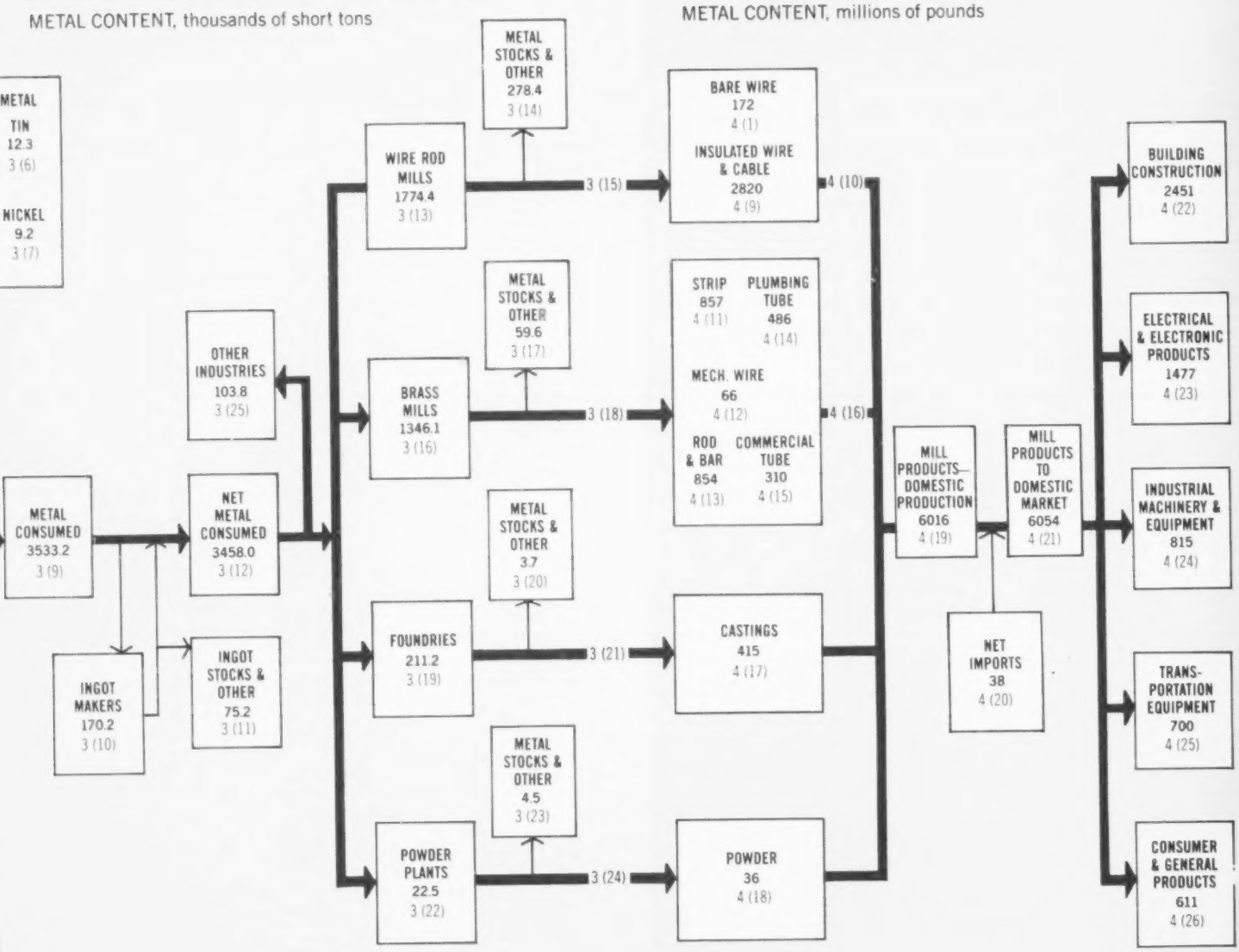


Table 1

Supply of primary copper from mine to consumption by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries

COPPER CONTENT, thousands of short tons

		1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
(1)	Mine Production (page 7)	1,522.2	1,664.8	1,717.9	1,597.0	1,413.4	1,605.6	1,504.0	1,496.5	1,594.6	1,301.9	1,695.5	1,264.3	1,144.3	1,215.4	1,217.9	1,261.3	1,370.8r	1,561.9	1,651.1r	1,749.6r	1,802.5
(2)	Net Ore Imports (page 8)[a]	23.1	35.4	19.4	36.7	65.7	74.8	42.2	13.9	−23.9	−101.2	−130.2	−107.1	55.7	−50.2	−120.5	−186.2	−124.7	−230.3	−252.0	−127.8	−198.4
(3)	Total Crude Primary	1,545.3	1,700.2	1,737.3	1,633.7	1,479.1	1,680.4	1,546.2	1,510.4	1,570.7	1,200.7	1,565.3	1,157.2	1,200.0	1,165.2	1,097.4	1,075.1	1,246.1r	1,331.6	1,399.1r	1,621.8r	1,604.1
(4)	Crude Stocks and Other	−9.3	21.6	47.6	−29.4	8.1	−42.0	26.9	14.5	8.8	38.7	61.5	62.1	−64.9	63.1	39.3	64.1	3.3r	69.4r	179.8r	88.9r	77.1
(5)	Electrowon Production	36.0	31.4	40.9	34.4	40.1	103.7	137.9	104.7	107.2	127.9	175.3	143.8	112.4	110.4	99.7	138.2	177.8	251.3	343.8	433.7r	484.0
(6)	Smelter Production From Primary	1,500.0	1,690.4	1,744.0	1,569.9	1,447.1	1,534.7	1,435.2	1,420.2	1,472.3	1,111.5	1,451.5	1,075.5	1,022.7	1,117.9	1,037.0	1,001.0	1,071.6	1,149.7r	1,235.1	1,277.0r	1,197.2
(7)	Smelter Production From Scrap	66.3	69.0	77.8	79.5	49.4	51.0	49.4	59.8	66.4	49.5	67.1	49.7	65.3	186.6	275.7	317.3	304.9	365.5r	395.8	336.0r	401.6
(8)	Total Smelter Production (page 8)	1,566.3	1,759.4	1,821.8	1,649.4	1,496.5	1,585.7	1,484.6	1,480.0	1,538.7	1,161.0	1,518.6	1,125.2	1,088.0	1,304.5	1,312.7	1,318.3	1,376.5	1,515.2r	1,630.9	1,613.0r	1,598.8
(9)	Net Imports of Blister (page 8)	128.0	148.9	146.6	205.1	87.4	41.1	28.3	70.0	66.9	47.6	71.1	111.8	79.4	57.1	11.6	33.4	34.4	72.5	79.0	41.7	43.1
(10)	Blister Stocks and Other (page 9)	−72.2	2.5	−63.0	−154.7	−131.2	−140.2	−105.2	2.4	24.0	47.7	4.1	21.2	88.5	8.8	17.1	11.3	−41.6	76.4r	−30.0	−14.4r	20.5
(11)	Refined Production from Blister	1,622.1	1,910.8	1,905.4	1,699.8	1,452.7	1,486.6	1,407.7	1,552.4	1,629.6	1,256.3	1,593.8	1,258.2	1,255.9	1,370.4	1,341.4	1,363.0	1,369.3	1,664.1r	1,679.9	1,640.3r	1,662.4
(12)	Refined Production from Scrap	304.3	316.3	366.3	404.4	282.1	300.2	303.0	362.3	441.2	474.3	465.1	465.7	377.5	151.3	134.1	130.1	152.3	126.6r	133.4r	149.8r	58.9
(13)	Total Refined Production (page 9)	1,962.4	2,258.5	2,312.6	2,138.6	1,774.9	1,890.5	1,848.6	2,019.4	2,178.0	1,858.5	2,234.2	1,867.7	1,745.8	1,632.1	1,575.2	1,631.3	1,699.4	2,042.0	2,157.1r	2,223.8r	2,205.3
(14)	Net Imports of Refined (page 9)[a]	−23.7	9.7	8.8	177.2	−26.4	266.1	327.8	342.7	147.1	481.1	325.2	274.2	435.2	450.4	350.3	524.9	536.7	300.3	174.5	53.9	19.2
(15)	Refined Stocks and Other (page 10)	82.3	−30.6	126.9	−112.3	−206.2	−159.1	16.8	59.6	60.9	−280.8	−322.3	−307.5	−184.2	257.4	232.8	158.6	108.2	89.3	99.9r	86.0r	28.5
(16)	Consumption of Refined (page 10)	2,021.0	2,237.6	2,448.3	2,203.5	1,542.3	1,997.5	2,193.2	2,421.7	2,386.0	2,058.8	2,237.1	1,834.4	1,996.8	2,339.9	2,158.3	2,314.8	2,344.3	2,431.6	2,431.5r	2,363.7r	2,253.0

Sources: U.S. Department of the Interior, Bureau of Mines;
U.S. Department of Commerce, Bureau of the Census; ABMS.

p - preliminary r - revised

(a) - Negative (−) signs denote net exports.

Table 1, Item 1.

Mine production of recoverable copper in the United States

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Arizona	820.2	908.6	927.3	858.8	813.2	1,024.4	923.8	982.6	1,046.1	848.9	1,147.3	848.3	747.6	822.8	877.0	866.5	827.9	928.9	990.4r	1,078.9r	1,133.4
Michigan	56.0	67.3	72.2	67.0	73.7	43.7	42.4	38.4	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Missouri	8.4	11.5	10.3	12.7	14.3	11.1	11.7	11.9	14.4	15.0	9.3	8.8	8.5	6.4	14.8	(b)	(b)	(b)	(b)	(b)	(b)
Montana	88.6	123.1	132.5	131.1	88.0	91.1	86.2	74.2	77.0	41.6	68.9	71.6	36.8	24.1	16.6	(b)	(b)	(b)	(b)	(b)	(b)
Nevada	96.9	101.1	93.7	84.1	81.2	58.2	67.1	22.5	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
New Mexico	157.4	168.0	204.7	196.6	146.3	172.4	164.7	140.9	181.1	164.7	169.9	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Tennessee	13.9	11.3	8.5	6.3	10.0	11.1	6.2	12.4	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Utah	263.5	259.5	256.6	230.6	177.2	185.5	194.1	205.4	212.8	173.9	232.9	208.4	187.1	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Other States [a]	17.3	14.4	12.1	9.8	9.5	8.1	7.8	8.2	63.2	57.8	67.2	127.2	164.3	362.1	309.5	394.8	542.9r	633.0	660.7r	670.7r	669.1
TOTAL	**1,522.2**	**1,664.8**	**1,717.9**	**1,597.0**	**1,413.4**	**1,605.6**	**1,504.0**	**1,496.5**	**1,594.6**	**1,301.9**	**1,695.5**	**1,264.3**	**1,144.3**	**1,215.4**	**1,217.9**	**1,261.3**	**1,370.8r**	**1,561.9**	**1,651.1r**	**1,749.6r**	**1,802.5**

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS. p - preliminary r - revised

(a) - Includes California, Colorado, Idaho, Maine, Oregon, Pennsylvania & Washington.

(b) - Included in Other States.

Mine production of recoverable copper in the World

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Australia	195.4	204.8	242.8	277.0	241.4	240.9	244.3	244.8	261.9	268.4	255.0	270.4	288.3	259.8	286.4	273.8	256.5	262.7r	325.2	360.5r	281.6
Brazil	5.8	5.0	3.7	3.4	2.1	0.1	—	0.1	—	0.4	15.3	26.9	35.4	38.8	45.2	44.3	44.4	49.4r	48.9r	40.2r	40.8
Bulgaria	47.4	52.9	52.9	56.9	60.6	62.8	62.8	63.9	66.1	68.3	68.3	71.7	75.0	80.5	86.0	66.1	59.5r	55.1	42.8r	36.3r	36.3
Canada	721.5	793.3	908.2	905.4	808.9	805.7	837.1	726.9	701.5	789.7	762.0	675.2	719.8	795.6	814.2	770.0	884.3	855.9	797.1r	884.1	877.0
Chile	780.8	790.1	810.6	994.4	913.0	1,108.0	1,162.1	1,140.0	1,171.4	1,177.2	1,191.7	1,369.3	1,386.2	1,422.8	1,495.2	1,543.0	1,563.2	1,599.5	1,773.9	1,750.9r	2,006.1
China (including Mongolia)	121.3	126.8	132.3	143.3	154.3	165.3	170.9	180.8	200.3	230.4	266.5	297.6	297.6	308.6	330.7	374.8	518.1	551.2	567.7	551.1r	551.1
Confed. of Indep. States (formerly USSR)	949.0	988.0	1,017.0	1,017.0	1,047.2	1,080.3	1,080.3	1,069.2	1,069.2	1,080.3	1,102.3	1,113.3	1,124.4	1,124.4	1,135.4	1,135.4	1,113.3	1,091.3	1,047.2	992.1r	992.1
India	12.3	16.1	24.7	22.9	26.7	28.0	33.3	29.3	30.5	30.4	27.8	26.5	48.3	51.8	52.9	54.2	59.6	56.8	58.8	56.9	58.2
Indonesia	—	5.5	41.8	72.1	70.0	76.2	62.9	63.9	66.4	65.0	69.0	82.8	86.6	94.4	97.8	105.6	116.1	138.8r	163.8	186.8r	224.9
Iran	1.1	1.3	2.2	2.2	4.4	6.6	6.6	6.6	3.3	1.1	2.2	47.4	63.5	47.7	44.1	55.1	44.1	56.2	75.0	66.5r	89.0
Japan	133.4	123.6	100.6	90.5	93.7	89.9	89.7	79.4	65.1	58.0	56.8	55.9	50.7	47.7	47.6	38.5	26.2	18.4	16.2	14.3r	13.7
Mexico	69.7	86.8	88.7	91.2	86.2	98.1	98.9	96.1	118.1	193.3	254.1	263.6	227.2	208.4	197.2	200.6	254.2r	308.0	274.8	321.1r	291.8
Namibia (South West Africa)	28.5	23.7	31.7	36.6	38.5	48.0	55.2	41.6	46.2	43.2	48.8	53.8	57.4	55.1	52.5	55.0	40.5r	43.4r	34.0r	35.8r	38.3
Papua New Guinea	—	136.7	201.6	202.9	190.1	194.6	201.0	218.9	188.3	161.8	182.3	187.4	201.9	181.2	192.9	196.9	240.0	235.6	226.1	187.6r	225.4
Peru	228.5	241.5	223.4	233.2	194.0	207.2	370.4	419.9	446.9	404.2	361.1	392.8	355.2	401.4	441.8	438.1	448.0	328.8	401.5r	350.1r	420.2
Philippines	217.8	235.6	243.8	248.6	248.9	261.9	300.7	290.6	328.8	335.7	333.2	322.0	299.2	257.3	244.9	245.4	238.4r	240.4	212.9r	201.0r	166.0
Poland	134.7	148.8	167.6	203.9	253.5	289.9	310.9	343.9	374.8	378.1	324.7	414.5	443.5	475.1	476.2	479.5	482.8	486.1	424.4	363.0r	363.0
Portugal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.3	0.2	1.2	5.7r	114.3r	176.0r	181.7
Scandinavia	88.6	100.1	124.5	110.7	118.6	129.8	133.0	135.9	127.4	119.7	129.0	133.6	149.6	155.9	158.0	157.4	139.5r	121.8r	110.8	116.6r	120.8
South Africa	173.6	178.5	193.8	197.4	197.2	217.0	238.2	230.7	224.0	233.6	232.1	228.3	233.5	233.7	224.0	212.6	217.3	211.8	216.7	216.9r	203.4
United States	1,522.2	1,664.8	1,717.9	1,597.0	1,413.4	1,605.6	1,504.0	1,496.5	1,594.6	1,301.9	1,695.5	1,264.3	1,144.3	1,215.4	1,217.9	1,261.3	1,370.8r	1,561.9	1,651.1r	1,749.6r	1,802.5
Yugoslavia	104.1	113.6	123.2	123.6	126.7	132.4	128.1	135.9	122.8	128.7	122.4	131.5	142.7	128.1	133.5	129.7	122.4r	97.0r	130.8r	131.2r	124.6
Zaire	448.8	480.3	538.5	550.8	545.4	490.1	530.9	467.2	440.7	506.7	556.4	554.2	553.6	551.9	553.5	554.0	551.2r	512.7	485.7	391.9r	315.4
Zambia	718.0	790.5	778.9	769.4	746.2	781.4	723.1	708.8	648.5	656.8	647.5	624.9	598.3	622.6	572.8	599.1	580.9	524.8r	562.4r	546.7r	465.8
Other (18 countries in 1991)	294.6	329.8	360.5	352.8	342.3	322.6	314.7	269.5	263.1	257.0	288.5	299.9	307.8	329.3	348.7	301.4	266.7r	263.6r	249.5r	222.1r	213.9
TOTAL WORLD	**6,997.1**	**7,638.1**	**8,130.9**	**8,303.2**	**7,923.3**	**8,442.4**	**8,659.1**	**8,460.4**	**8,559.9**	**8,489.9**	**8,992.5**	**8,907.8**	**8,890.0**	**9,087.5**	**9,249.7**	**9,292.0**	**9,639.2r**	**9,676.9r**	**10,011.6r**	**9,949.3r**	**10,103.6**

Sources: United States - U.S. Department of the Interior, Bureau of Mines.
Other Countries - ABMS; Metallgesellschaft; CDA.
p - preliminary r - revised

Table 1, Item 2.

Imports and exports of copper ore in the United States

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Imports (Ore, Concentrate, Matte)	31.3	55.0	42.9	56.0	74.0	89.6	58.0	33.2	25.2	16.5	36.0	108.1	102.8	17.1	7.7	6.0	12.8	9.1	52.3	159.8	68.8
Exports (Ore, Concentrate, Matte)	–8.2	–19.6	–23.5	–19.3	–8.3	–14.8	–15.8	–19.3	–49.1	–117.7	–166.2	–215.2	–47.1	–67.3	–128.2	–192.2	–137.5	–239.4	–304.3	–287.6	–267.2
Net Imports (Ore, Concentrate, Matte)	23.1	35.4	19.4	36.7	65.7	74.8	42.2	13.9	–23.9	–101.2	–130.2	–107.1	55.7	–50.2	–120.5	–186.2	–124.7	–230.3	–252.0	–127.8	–198.4

Source: U.S. Department of Commerce, Bureau of the Census.
p - preliminary

Table 1, Item 8.

Smelter production of copper in the United States

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Smelter Production - Domestic Ore (Table 1, Item 6)	1,470.8	1,649.1	1,705.1	1,532.1	1,374.3	1,461.3	1,394.4	1,399.9	1,447.6	1,096.2	1,427.5	1,036.8	979.0	1,091.2	1,035.4	1,001.0	1,071.6	1,149.7r	1,235.1	1,277.0r	1,197.2
Smelter Production - Foreign Ore (Table 1, Item 6)	29.2	41.3	38.9	37.8	72.8	73.4	40.8	20.3	24.7	15.3	24.0	38.7	43.7	26.7	1.6	(a)	(a)	(a)	(a)	(a)	(a)
Smelter Production - Scrap (Table 1, Item 7)	66.3	69.0	77.8	79.5	49.4	51.0	49.4	59.8	66.4	49.5	67.1	49.7	65.3	186.6	275.7	317.3	304.9	365.5r	395.8	336.0r	401.8
TOTAL SMELTER PRODUCTION	**1,566.3**	**1,759.4**	**1,821.8**	**1,649.4**	**1,496.5**	**1,585.7**	**1,484.6**	**1,480.0**	**1,538.7**	**1,161.0**	**1,518.6**	**1,125.2**	**1,088.0**	**1,304.5**	**1,312.7**	**1,318.3**	**1,376.5**	**1,515.2r**	**1,630.9**	**1,613.0r**	**1,598.8**

Source: U.S. Department of the Interior, Bureau of Mines.
p - preliminary r - revised
(a) - Included under domestic ore.

Table 1, Item 9.

Imports and exports of blister copper in the United States

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Imports of Blister Copper	156.7	157.4	154.1	207.8	88.9	43.8	44.7	81.4	75.1	51.8	81.3	114.0	87.6	66.3	31.4	51.0	48.0	108.5	85.1	48.8	66.5
Exports of Blister Copper	–28.7	–8.5	–7.5	–2.7	–1.5	–2.7	–16.4	–11.4	–8.2	–4.2	–10.2	–2.2	–8.2	–9.2	–19.8	–17.6	–13.6	–36.0	–6.1	–7.1	–23.4
Net Imports of Blister Copper	**128.0**	**148.9**	**146.6**	**205.1**	**87.4**	**41.1**	**28.3**	**70.0**	**66.9**	**47.6**	**71.1**	**111.8**	**79.4**	**57.1**	**11.6**	**33.4**	**34.4**	**72.5**	**79.0**	**41.7**	**43.1**

Source: U.S. Department of Commerce, Bureau of the Census.
p - preliminary

Table 1, Item 10.

Blister stocks and other

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
End-of-Year Blister Copper Stocks	303.0	282.0	265.0	324.0	312.0	321.0	346.0	290.0	303.1	299.8	305.3	256.8	191.8	270.1	160.9	149.9	165.3	133.4	145.5	131.2r	148.7
Net Change [a]	-37.0	-21.0	-17.0	59.0	-12.0	9.0	25.0	-56.0	13.1	-3.3	5.5	-48.5	-65.0	78.3	-109.2	-11.0	15.4	-31.9	12.1	-14.3r	17.5
Apparent Change [b]	72.2	-2.5	63.0	154.7	131.2	140.2	105.2	-2.4	-24.0	-47.7	-4.1	-21.2	-88.5	-8.8	-17.1	-11.3	41.6	-76.4r	30.0	14.4r	-20.5

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.
p - preliminary r - revised
(a) - Net Change — the year-to-year increase (+) or decrease (-) of blister copper stocks as reported.
(b) - Apparent Change — the difference between Line 11 and the sum of Lines 8 & 9 in Table 1, required to rationalize the CDA flow sheet. Factors other than changes in stocks are included in the apparent change. The sign of the data (+ or -) is opposite that shown in Table 1.

Table 1, Item 13.

Production of refined copper in the United States

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Refined Production - Primary Sources (Table 1, Items 1, 2, 4, 9 & 10)	1,591.8	1,873.2	1,868.5	1,654.7	1,443.4	1,539.3	1,496.2	1,597.3	1,670.4	1,334.7	1,702.0	1,352.3	1,303.0	1,294.2	1,165.4	1,183.9	1,242.2	1,549.9	1,627.9	1,738.0r	1,744.8
Refined Production - Scrap at Smelters (Table 1, Item 7)	66.3	69.0	77.8	79.5	49.4	51.0	49.4	59.8	66.4	49.5	67.1	49.7	65.3	186.6	275.7	317.3	304.9	365.5r	395.8	336.0r	401.6
Refined Production - Scrap at Refiners (Table 1, Item 12)	304.3	316.3	366.3	404.4	282.1	300.2	303.0	362.3	441.2	474.3	465.1	465.7	377.5	151.3	134.1	130.1	152.3	126.6r	133.4r	149.8r	58.9
TOTAL REFINED PRODUCTION	**1,962.4**	**2,258.5**	**2,312.6**	**2,138.6**	**1,774.9**	**1,890.5**	**1,848.6**	**2,019.4**	**2,178.0**	**1,858.5**	**2,234.2**	**1,867.7**	**1,745.8**	**1,632.1**	**1,575.2**	**1,631.3**	**1,699.4**	**2,042.0**	**2,157.1r**	**2,223.8r**	**2,205.3**

Sources: U.S. Department of the Interior, Bureau of Mines; U.S. Department of Commerce, Bureau of the Census; ABMS.
p - preliminary r - revised

Table 1, Item 14.

Imports and exports of refined copper in the United States

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Imports of Refined Copper	164.0	192.4	199.9	303.9	146.0	380.7	390.8	455.8	237.2	505.0	391.2	313.9	532.4	555.9	420.1	542.0	557.0	367.1	334.9	268.4	318.1
Exports of Refined Copper	-187.7	-182.7	-191.1	-126.7	-172.4	-114.6	-63.0	-113.1	-90.1	-23.9	-66.0	-39.7	-97.2	-105.5	-69.8	-17.1	-20.3	-66.8	-160.4	-234.5	-298.9
Net Imports of Refined Copper	**-23.7**	**9.7**	**8.8**	**177.2**	**-26.4**	**266.1**	**327.8**	**342.7**	**147.1**	**481.1**	**325.2**	**274.2**	**435.2**	**450.4**	**350.3**	**524.9**	**536.7**	**300.3**	**174.5**	**53.9**	**19.2**

Source: U.S. Department of Commerce, Bureau of the Census.
p - preliminary

Table 1, Item 15.

Refined stocks and other

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
End-of-year Refined Copper Stocks at:																					
Refineries	82.7	99.6	43.2	151.6	260.7	272.8	286.7	188.3	78.4	73.4	151.0	210.1	66.1	193.4	150.4	145.1	63.1	42.9	56.3	52.1	41.6
Wire Rod Mills	120.0	75.0	61.0	131.0	140.0	133.0	116.3	69.7	48.7	54.6	120.3	137.8	127.9	147.7	110.2	72.8	30.9	32.0	35.3	26.5	32.6
Brass Mills	50.0	35.0	43.0	42.0	33.0	39.0	34.2	30.7	27.0	24.5	29.2	28.0	28.7	29.8	22.0	15.4	16.5	18.7	13.2	11.0	11.8
Other Processors	6.0	5.4	5.6	6.9	6.1	7.0	7.0	7.5	10.4	11.3	9.4	8.4	9.2	8.1	8.1	8.8	9.9	10.2	10.7	9.4r	7.0
Government	251.6	226.6	217.8	35.3	26.2	42.1	22.6	22.5	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3
Commodity Exchange	20.3	57.8	5.9	43.3	100.0	201.0	184.4	179.6	107.9	179.6	187.6	274.5	409.2	276.3	120.3	93.3	18.3	13.4	16.3	20.2	33.7
End-of-Year Total	**530.6**	**499.4**	**376.5**	**410.1**	**566.0**	**694.9**	**651.2**	**498.3**	**294.7**	**365.7**	**519.8**	**681.1**	**663.4**	**677.6**	**433.3**	**357.7**	**161.0**	**139.5**	**154.1**	**141.5r**	**149.0**
Net Change [a]	-70.4	-31.2	-122.9	33.6	155.9	128.9	-43.7	-152.9	-203.6	71.0	154.1	161.3	-17.7	14.2	-244.3	-75.6	-196.7	-21.5	14.6	-12.6r	7.5
Apparent Change [b]	-82.3	30.6	-126.9	112.3	206.2	159.1	-16.8	-59.6	-60.9	280.8	322.3	307.5	184.2	-257.4	-232.8	-158.6	-108.2	-89.3	-99.9r	-86.0r	-28.5

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.

p - preliminary r - revised

(a) - Net Change — the year-to-year increase (+) or decrease (–) of refined copper stocks as reported.

(b) - Apparent Change — the difference between Line 16 and the sum of Lines 13 & 14 in Table 1, required to rationalize the CDA flow sheet. Factors other than changes in stocks are included in the apparent change. The sign of the data (+ or –) is opposite that shown in Table 1.

Table 1, Item 16.

Consumption of refined copper in the United States

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Consumption of Refined Copper by:																					
Wire Rod Mills	1,324.9	1,526.3	1,672.3	1,474.3	1,061.3	1,364.0	1,511.2	1,672.7	1,653.0	1,442.8	1,597.9	1,359.0	1,399.8	1,658.6	1,545.1	1,644.6	1,757.0	1,837.8	1,872.1	1,822.7	1,754.6
Brass Mills	655.8	667.2	714.4	670.2	439.0	584.8	628.6	682.6	672.6	564.0	591.1	433.4	551.4	635.1	566.6	622.7	538.6	543.7	508.2	490.8r	456.7
Ingot Makers	4.5	6.0	6.1	9.2	4.5	7.5	6.6	8.2	6.9	5.5	6.0	4.8	4.9	7.6	5.9	5.8	5.8	6.2	6.3r	6.2r	5.1
Foundries	17.5	17.9	30.6	28.7	21.7	21.0	22.5	22.1	19.9	18.2	17.7	15.1	15.6	17.7	15.9	16.2	16.3	16.7	17.2r	16.8r	14.0
Powder Plants	7.2	9.5	12.7	12.0	6.8	11.8	11.3	11.5	11.6	8.3	8.3	7.5	8.5	8.7	8.1	7.9	8.5	8.7	9.0r	8.8r	7.3
Other Industries [a]	11.1	10.7	12.2	9.1	9.0	8.4	13.0	24.6	22.0	20.0	16.1	14.6	16.6	12.2	16.7	17.6	18.1	18.5	18.7r	18.4r	15.3
TOTAL REFINED CONSUMPTION	**2,021.0**	**2,237.6**	**2,448.3**	**2,203.5**	**1,542.3**	**1,997.5**	**2,193.2**	**2,421.7**	**2,385.0**	**2,058.8**	**2,237.1**	**1,834.4**	**1,996.8**	**2,339.9**	**2,158.3**	**2,314.8**	**2,344.3**	**2,431.6**	**2,431.5r**	**2,363.7r**	**2,253.0**

Sources: U.S. Department of the Interior, Bureau of Mines; U.S. Department of Commerce, Bureau of the Census; ABMS.

p - preliminary r - revised

(a) - Chemical, steel, aluminum and other industries.

Table 2

Supply of secondary copper from receipt to consumption by brass mills, ingot makers, foundries, powder plants and other industries

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
(1) Receipts of Domestic Scrap	1,334.9	1,440.8	1,560.9	1,504.3	1,113.0	1,271.1	1,318.4	1,426.9	1,661.6	1,541.8	1,553.4	1,317.1	1,302.8	1,352.2	1,468.3	1,488.9	1,546.8	1,708.9	1,736.4r	1,649.5r	1,519.8
(2) Net Scrap Exports (page 12) [a]	–50.7	–39.2	–81.4	–70.5	–84.3	–54.1	–58.5	–95.9	–100.7	–120.8	–80.0	–81.8	–45.9	–98.8	–193.6	–189.0	–169.1	–206.5	–240.6	–181.9	–174.2
(3) Scrap Stocks (page 12)	17.0	7.0	–2.0	–3.0	5.0	–19.0	–10.9	22.7	–10.6	12.1	–10.0	9.2	7.3	9.2	–23.5	22.8	0.2	–12.6	13.1	11.3r	0.4
(4) Recovery From Copper-Base Scrap (page 13)	1,301.2	1,408.6	1,477.5	1,430.8	1,033.7	1,198.0	1,249.0	1,353.7	1,550.3	1,433.1	1,463.4	1,244.5	1,264.2	1,262.6	1,251.2	1,322.7	1,377.9	1,489.8	1,508.9r	1,478.9r	1,346.0
(5) Recovery From Other Scrap (page 13)	17.0	19.7	21.1	21.1	28.1	35.7	37.9	39.8	42.5	38.9	42.9	40.6	42.7	42.5	42.8	44.6	46.5	50.4	51.0r	49.9r	45.5
(6) Total Scrap Recovery (page 13)	1,318.2	1,428.3	1,498.6	1,451.9	1,061.8	1,233.7	1,286.9	1,393.5	1,592.8	1,472.0	1,506.3	1,285.1	1,306.9	1,305.1	1,294.0	1,367.3	1,424.4	1,540.2	1,559.9r	1,528.8r	1,391.5
(7) Smelter Production From Scrap	–66.3	–69.0	–77.8	–79.5	–49.4	–51.0	–49.4	–59.8	–66.4	–49.5	–67.1	–49.7	–65.3	–186.6	–275.7	–317.3	–304.9	–365.5r	–395.8	–336.0r	–401.6
(8) Refined Production From Scrap	–304.3	–316.3	–366.3	–404.4	–282.1	–300.2	–303.0	–362.3	–441.2	–474.3	–465.1	–465.7	–377.5	–151.3	–134.1	–130.1	–152.3	–126.6r	–133.4r	–149.8r	–58.9
(9) Consumption of Scrap (page 13)	947.6	1,043.0	1,054.5	968.0	730.3	882.5	934.5	971.4	1,085.2	948.2	974.1	769.7	864.1	967.2	884.2	919.9	967.2	1,048.1	1,030.7r	1,043.0r	931.0

Sources: U.S. Department of the Interior, Bureau of Mines;
U.S. Department of Commerce, Bureau of the Census; ABMS.

p - preliminary r - revised

(a) - Negative (–) signs denote net exports.

Table 2, Item 2.

Imports and exports of copper-base scrap in the United States

	COPPER CONTENT, thousands of short tons																				
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Imports of Copper-Base Scrap	13.8	18.8	27.1	41.7	20.2	29.4	28.6	28.8	32.0	32.5	38.8	38.8	60.1	59.6	50.9	61.6	73.0	80.8	96.0	115.7	106.7
Exports of Copper-Base Scrap	–64.5	–58.0	–108.5	–112.2	–104.5	–83.5	–67.1	–124.7	–132.7	–153.3	–118.8	–120.6	–106.0	–158.4	–244.5	–250.6	–242.1	–287.3	–336.6	–297.6	–280.9
Net Exports of Copper-Base Scrap [a]	**–50.7**	**–39.2**	**–81.4**	**–70.5**	**–84.3**	**–54.1**	**–58.5**	**–95.9**	**–100.7**	**–120.8**	**–80.0**	**–81.8**	**–45.9**	**–98.8**	**–193.6**	**–189.0**	**–169.1**	**–206.5**	**–240.6**	**–181.9**	**–174.2**

Sources: U.S. Department of Commerce, Bureau of the Census; ABMS.
p - preliminary
(a) - The negative (–) sign for each year is used to be consistent with the convention used in Tables 1, 2 and 4 — namely that imports are **additions** to the domestic flow, and therefore (+), while exports are **subtractions** from the flow, and therefore (–).

Table 2, Item 3.

Copper-base scrap stocks

	COPPER CONTENT, thousands of short tons																				
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Scrap Copper-Base Stocks at:																					
Brass Mills	37.0	36.0	44.0	45.0	46.0	48.0	54.7	44.4	45.6	44.9	39.7	45.6	39.8	40.3	30.9	32.9	39.8	41.7	36.1	33.1	27.4
Secondary Smelters	24.0	22.0	23.0	24.0	27.0	28.0	33.2	26.0	30.1	30.5	41.7	23.7	18.0	23.5	} 68.9	46.8	39.8	48.4	43.0	35.7r	40.9
Primary Producers	27.0	24.0	19.0	18.0	12.0	25.0	27.7	22.1	27.5	16.6	19.1	23.7	28.2	14.3							
Foundries	14.0	13.0	11.0	13.0	11.0	13.0	11.3	10.8	10.7	9.9	11.1	9.8	9.5	8.5	9.9	7.8	7.7	9.4	7.7	7.0r	7.0
Other Processors	4.0	4.0	4.0	4.0	3.0	4.0	2.0	2.9	2.9	2.8	3.1	2.7	2.7	2.4	2.8	2.2	2.2	2.6	2.2	1.9r	2.0
End-of-Year Total	**106.0**	**99.0**	**101.0**	**104.0**	**99.0**	**118.0**	**128.9**	**106.2**	**116.8**	**104.7**	**114.7**	**105.5**	**98.2**	**89.0**	**112.5**	**89.7**	**89.5**	**102.1**	**89.0**	**77.7r**	**77.3**
Net Change [a]	–17.0	–7.0	2.0	3.0	–5.0	19.0	10.9	–22.7	10.6	–12.1	10.0	–9.2	–7.3	–9.2	23.5	–22.8	–0.2	12.6	–13.1	–11.3r	–0.4

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.
p - preliminary r - revised
(a) - Net Change — the year-to-year increase (+) or decrease (–) of stocks as reported. The sign of the data (+ or –) is opposite that shown in Table 2.

Table 2, Item 6.

Recovery of copper from scrap

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Copper Recovered From Copper-Base Scrap																					
New Scrap	752.5	854.4	901.9	864.2	593.6	716.1	731.2	790.4	947.0	828.6	859.7	687.3	708.7	709.0	693.6	700.2	752.1	832.9	803.7r	803.5r	733.5
Old Scrap	548.7	554.2	575.6	566.6	440.1	481.9	517.8	563.3	603.3	604.5	603.7	557.2	555.5	553.6	557.6	622.5	625.8	656.9	705.2r	675.4r	612.5
Total (Table 2, Item 4)	**1,301.2**	**1,408.6**	**1,477.5**	**1,430.8**	**1,033.7**	**1,198.0**	**1,249.0**	**1,353.7**	**1,550.3**	**1,433.1**	**1,463.4**	**1,244.5**	**1,264.2**	**1,262.6**	**1,251.2**	**1,322.7**	**1,377.9**	**1,489.8**	**1,508.9r**	**1,478.9r**	**1,346.0**
Copper Recovered From Scrap Other Than Copper-Base																					
New Scrap	10.7	13.0	14.3	14.0	17.4	20.7	21.9	22.9	24.5	22.5	25.6	22.6	22.6	22.5	22.6	22.1	23.9	26.6	25.5r	25.5r	23.3
Old Scrap	6.3	6.7	6.8	7.1	10.7	15.0	16.0	16.9	18.0	16.4	17.3	18.0	20.1	20.0	20.2	22.5	22.6	23.8	25.5r	24.4r	22.2
Total (Table 2, Item 5)	**17.0**	**19.7**	**21.1**	**21.1**	**28.1**	**35.7**	**37.9**	**39.8**	**42.5**	**38.9**	**42.9**	**40.6**	**42.7**	**42.5**	**42.8**	**44.6**	**46.5**	**50.4**	**51.0r**	**49.9r**	**45.5**
Copper Recovered From All Scrap																					
New Scrap	763.2	867.4	916.2	878.2	611.0	736.8	753.1	813.3	971.5	851.1	885.3	709.9	731.3	731.5	716.2	722.3	776.0	859.5	829.2r	829.0r	756.8
Old Scrap	555.0	560.9	582.4	573.7	450.8	496.9	533.8	580.2	621.3	620.9	621.0	575.2	575.6	573.6	577.8	645.0	648.4	680.7	730.7r	699.8r	634.7
Total Copper Recovered (Table 2, Item 6)	**1,318.2**	**1,428.3**	**1,498.6**	**1,451.9**	**1,061.8**	**1,233.7**	**1,286.9**	**1,393.5**	**1,592.8**	**1,472.0**	**1,506.3**	**1,285.1**	**1,306.9**	**1,305.1**	**1,294.0**	**1,367.3**	**1,424.4**	**1,540.2**	**1,559.9r**	**1,528.8r**	**1,391.5**

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.
p - preliminary r - revised

Table 2, Item 9.

Consumption of copper scrap in the United States

COPPER CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Consumption of Copper Scrap by:																					
Wire Rod Mills	14.0r	16.3r	17.3r	15.9r	11.4r	14.6r	15.0r	15.3r	17.1r	15.0r	15.8r	12.6r	15.2r	16.4r	14.9r	15.9r	16.6r	24.4r	31.2r	27.0r	19.8
Brass Mills	482.6r	562.1r	595.2r	547.1r	394.9r	504.7r	516.9r	526.4r	590.9r	517.3r	543.5r	435.6r	525.7r	567.4r	514.3r	546.9r	589.3r	646.5r	613.0r	637.3r	597.8
Ingot Makers	257.9	250.5	236.7	215.0	164.0	173.0	195.0	205.5	238.2	214.0	213.0	173.2	176.4	219.5	202.4	200.6	201.6	213.2	218.4r	214.0r	177.5
Foundries	113.4	121.7	122.7	115.4	90.9	95.7	101.2	105.2	113.0	87.0	84.7	72.1	74.3	84.2	78.7	79.9	80.3	82.7	84.7r	83.0r	68.3
Powder Plants	16.5	16.0	17.3	17.7	11.6	16.8	18.3	18.5	18.1	12.8	12.9	10.1	13.2	13.1	12.2	11.9	12.8	13.1	13.5r	13.2r	11.0
Other Industries [a]	63.2	76.4	65.3	56.9	57.5	77.7	88.1	100.5	107.9	102.1	104.2	66.1	59.3	66.6	61.7	64.7	66.6	68.2	69.9r	68.5r	56.6
TOTAL COPPER CONSUMED	**947.6**	**1,043.0**	**1,054.5**	**968.0**	**730.3**	**882.5**	**934.5**	**971.4**	**1,085.2**	**948.2**	**974.1**	**769.7**	**864.1**	**967.2**	**884.2**	**919.9**	**967.2**	**1,048.1**	**1,030.7r**	**1,043.0r**	**931.0**

Sources: U.S. Department of the Interior, Bureau of Mines; U.S. Department of Commerce, Bureau of the Census; ABMS.
p - preliminary r - revised
(a) - Chemical, steel, aluminum and other industries.

Table 3

Consumption of metals by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries

	METAL CONTENT, thousands of short tons																			
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
(1) Consumption of Refined Copper (Table 1, Item 16)	2,021.0	2,237.6	2,448.3	2,203.5	1,542.3	1,997.5	2,193.2	2,421.7	2,386.0	2,058.8	2,237.1	1,834.4	1,996.8	2,339.9	2,158.3	2,314.8	2,344.3	2,431.6	2,431.5r	2,363.7r	2,253.0
(2) Consumption of Copper in Scrap (Table 2, Item 9)	947.6	1,043.0	1,054.5	968.0	730.3	882.5	934.5	971.4	1,085.2	948.2	974.1	769.7	864.1	967.2	884.2	919.9	967.2	1,048.1	1,030.7r	1,043.0r	931.0
(3) Total Copper Consumed (page 15)	**2,968.6**	**3,280.6**	**3,502.8**	**3,171.5**	**2,272.6**	**2,880.0**	**3,127.7**	**3,393.1**	**3,471.2**	**3,007.0**	**3,211.2**	**2,604.1**	**2,860.9**	**3,307.1**	**3,042.5**	**3,234.7**	**3,311.5**	**3,479.7**	**3,462.2r**	**3,406.7r**	**3,184.0**
(4) Consumption of Zinc	316.3	387.0	381.0	347.2	234.7	323.1	328.8	347.8	358.9	298.1	313.7	246.6	302.1	353.3	286.7	293.6	323.6	340.9	321.5r	312.6r	302.2
(5) Consumption of Lead	25.6	26.1	28.8	28.1	19.7	26.0	30.0	30.1	30.8	25.7	26.0	22.4	25.3	30.8	27.5	27.5	28.5	30.1	30.1r	29.4r	25.5
(6) Consumption of Tin	15.2	22.6	16.3	16.2	11.7	14.4	16.7	16.4	16.4	14.2	14.5	11.7	12.4	15.2	13.9	13.8	13.9	14.9	14.9r	14.7r	12.3
(7) Consumption of Nickel	11.5	11.2	17.2	12.0	12.0	9.7	8.1	7.4	11.2	10.6	14.3	5.8	8.9	10.3	8.5	8.8	9.8	10.3	9.6r	9.3	9.2
(8) Total Alloying Metal Consumed (page 16)	**368.6**	**446.9**	**443.3**	**403.5**	**278.1**	**373.2**	**383.6**	**401.7**	**417.3**	**348.6**	**368.5**	**286.5**	**348.7**	**409.6**	**336.6**	**343.7**	**375.8**	**396.1**	**376.1r**	**366.0r**	**349.2**
(9) Total Metal Consumed	**3,337.2**	**3,727.5**	**3,946.1**	**3,575.0**	**2,550.7**	**3,253.2**	**3,511.3**	**3,794.8**	**3,888.5**	**3,355.6**	**3,579.7**	**2,890.6**	**3,209.6**	**3,716.7**	**3,379.1**	**3,578.4**	**3,687.3**	**3,875.8**	**3,838.3r**	**3,772.7r**	**3,533.2**
(10) Ingot Consumed (page 17) [a]	276.4	301.3	300.0	284.7	194.3	236.5	258.2	256.6	266.2	235.6	239.6	191.8	197.5	205.0	190.2	196.1	198.3	204.6	208.1r	204.0r	170.2
(11) Ingot Stocks & Other (page 17) [a,b]	–56.6	–32.1	–10.9	–7.2	–24.7	–7.2	–14.2	–21.4	–44.0	–41.2	–43.0	–41.1	–46.1	–100.2	–89.8	–81.3	–80.5	–90.3	–93.9r	–92.0r	–75.2
(12) Net Metal Consumed (page 17)	**3,280.6**	**3,695.4**	**3,935.2**	**3,567.8**	**2,526.0**	**3,246.0**	**3,497.1**	**3,773.4**	**3,844.5**	**3,314.4**	**3,536.7**	**2,849.5**	**3,163.5**	**3,616.5**	**3,289.3**	**3,497.1**	**3,606.8**	**3,785.5**	**3,744.4r**	**3,680.7r**	**3,458.0**
(13) Wire Rod Mills - Net Metal Consumed (page 17)	1,338.9r	1,542.6r	1,689.6r	1,490.2r	1,072.7r	1,378.6r	1,526.2r	1,688.0r	1,670.1r	1,457.8r	1,613.7r	1,371.6r	1,415.0r	1,675.0r	1,560.0r	1,660.5r	1,773.6r	1,862.2r	1,903.3r	1,849.7r	1,774.4
(14) Wire Rod & Wire Mills - Metal Stocks & Other	–82.4r	–186.1r	–223.6r	–164.7r	–34.2r	–170.6r	–97.7r	–180.5r	–123.1r	–69.3r	–176.2r	–56.6r	–88.5r	–170.0r	–96.0r	–160.5r	–130.1r	–219.2r	–272.3r	–228.7r	–278.4
(15) Wire Mills - Metal Contained in Products Supplied (Table 4, Item 10)	1,256.5	1,356.5	1,466.0	1,325.5	1,038.5	1,208.0	1,428.5	1,507.5	1,547.0	1,388.5	1,437.5	1,315.0	1,326.5	1,505.0	1,464.0	1,500.0	1,643.5	1,643.0	1,631.0r	1,621.0r	1,496.0
(16) Brass Mills - Net Metal Consumed (page 17)	1,434.5r	1,599.1r	1,682.9r	1,561.7r	1,055.8r	1,392.7r	1,449.6r	1,534.3r	1,602.2r	1,365.6r	1,445.3r	1,103.8r	1,368.1r	1,539.4r	1,348.6r	1,447.3r	1,436.8r	1,515.9r	1,423.8r	1,422.3r	1,346.1
(17) Brass Mills - Metal Stocks & Other	–76.0r	–77.6r	–23.4r	–133.2r	–15.3r	–84.7r	–61.1r	–63.3r	–61.2r	–82.6r	–112.8r	–73.3r	–155.6r	–144.9r	–119.1r	–172.8r	–11.3r	–55.9r	–23.3r	–102.3r	–59.6
(18) Brass Mills - Metal Contained in Products Supplied (Table 4, Item 16)	1,358.5	1,521.5	1,659.5	1,428.5	1,040.0	1,308.0	1,388.5	1,471.0	1,541.0	1,283.0	1,332.5	1,030.5	1,212.5	1,394.5	1,229.5	1,274.5	1,425.0	1,460.0	1,400.5	1,320.0	1,286.5
(19) Foundries - Net Metal Consumed (page 17)	364.6	394.0	404.9	380.3	276.0	299.4	326.2	346.2	353.5	297.5	292.4	235.7	243.9	261.3	242.4	245.9	247.8	255.3	261.8r	256.2r	211.2
(20) Foundries - Metal Stocks & Other	1.9	–2.0	5.1	–14.3	39.5	3.6	–5.2	–15.2	9.5	–11.5	–10.4	–13.7	5.1	–9.3	–7.4	–7.9	–9.3	–5.3	–24.8r	–40.7r	–3.7
(21) Foundries - Metal Contained in Products Supplied (Table 4, Item 17)	366.5	392.0	410.0	366.0	315.5	303.0	321.0	331.0	363.0	286.0	282.0	222.0	249.0	252.0	235.0	238.0	238.5	250.0	237.0r	215.5r	207.5
(22) Powder Plants - Net Metal Consumed (p. 17)	32.3	34.6	41.3	36.6	21.8	34.4	36.5	37.4	36.6	26.0	26.1	21.7	26.8	26.9	25.0	24.5	26.2	26.8	27.5r	27.0r	22.5
(23) Powder Plants - Metal Stocks & Other	–6.3	–7.6	–9.3	–2.1	1.2	–1.9	–4.5	–9.4	–9.6	–7.0	–4.1	–4.7	–7.3	–5.4	–6.5	–7.0	–6.7	–4.8	–7.0r	–6.0r	–4.5
(24) Powder Plants - Metal Contained in Products Supplied (Table 4, Item 18)	26.0	27.0	32.0	34.5	23.0	32.5	32.0	28.0	27.0	19.0	22.0	17.0	19.5	21.5	18.5	17.5	19.5	22.0	20.5	19.0	18.0
(25) Other Industries - Net Metal Consumed (page 17) [c]	110.3	125.1	116.5	99.0	99.7	140.9	158.6	167.5	182.1	167.5	159.2	116.7	109.7	113.9	113.3	118.9	122.4	125.3	128.0r	125.5r	103.8

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.

p - preliminary r - revised

(a) - Direct consumption only; not including consumption of copper in ingots from ingot makers.

(b) - Ingot makers consume refined copper, scrap copper and alloying metal, and ship to foundries, brass mills, powder plants and other industries.

(c) - Chemical, steel, aluminum and other industries.

Table 3, Item 3.

Consumption of copper by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries

	COPPER CONTENT, thousands of short tons																			
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Consumption of Copper by:																					
Wire Rod Mills																					
Refined	1,324.9	1,526.3	1,672.3	1,474.3	1,061.3	1,364.0	1,511.2	1,672.7	1,653.0	1,442.8	1,597.9	1,359.0	1,399.8	1,658.6	1,545.1	1,644.6	1,757.0	1,837.8	1,872.1	1,822.7	1,754.6
Scrap	14.0r	16.3r	17.3r	15.9r	11.4r	14.6r	15.0r	15.3r	17.1r	15.0r	15.8r	12.6r	15.2r	16.4r	14.9r	15.9r	16.6r	24.4r	31.2r	27.0r	19.8
Total	1,338.9r	1,542.6r	1,689.6r	1,490.2r	1,072.7r	1,378.6r	1,526.2r	1,688.0r	1,670.1r	1,457.8r	1,613.7r	1,371.6r	1,415.0r	1,675.0r	1,560.0r	1,660.5r	1,773.6r	1,862.2r	1,903.3r	1,849.7r	1,774.4
Brass Mills [a]																					
Refined	655.8	667.2	714.4	670.2	439.0	584.8	628.6	682.6	672.6	564.0	591.1	433.4	551.4	635.1	566.6	622.7	538.6	543.7	508.2	490.8r	456.7
Scrap	482.6r	562.1r	595.2r	547.1r	394.9r	504.7r	516.9r	526.4r	590.9r	517.3r	543.5r	435.6r	525.7r	567.4r	514.3r	546.9r	589.3r	646.5r	613.0r	637.3r	597.8
Total	1,138.4r	1,229.3r	1,309.6r	1,217.3r	833.9r	1,089.5r	1,145.5r	1,209.0r	1,263.5r	1,081.3r	1,134.6r	869.0r	1,077.1r	1,202.5r	1,080.9r	1,169.6r	1,127.9r	1,190.2r	1,121.2r	1,128.1r	1,054.5
Ingot Makers [b]																					
Refined	4.5	6.0	6.1	9.2	4.5	7.5	6.6	8.2	6.9	5.5	6.0	4.8	4.9	7.6	5.9	5.8	5.8	6.2	6.3r	6.2r	5.1
Scrap	257.9	250.5	236.7	215.0	164.0	173.0	195.0	205.5	238.2	214.0	213.0	173.2	176.4	219.5	202.4	200.6	201.6	213.2	218.4r	214.0r	177.5
Total	262.4	256.5	242.8	224.2	168.5	180.5	201.6	213.7	245.1	219.5	219.0	178.0	181.3	227.1	208.3	206.4	207.4	219.4	224.7r	220.2r	182.6
Foundries [a]																					
Refined	17.5	17.9	30.6	28.7	21.7	21.0	22.5	22.1	19.9	18.2	17.7	15.1	15.6	17.7	15.9	16.2	16.3	16.7	17.2r	16.8r	14.0
Scrap	113.4	121.7	122.7	115.4	90.9	95.7	101.2	105.2	113.0	87.0	84.7	72.1	74.3	84.2	78.7	79.9	80.3	82.7	84.7r	83.0r	68.3
Total	130.9	139.6	153.3	144.1	112.6	116.7	123.7	127.3	132.9	105.2	102.4	87.2	89.9	101.9	94.6	96.1	96.6	99.4	101.9r	99.8r	82.3
Powder Plants [a]																					
Refined	7.2	9.5	12.7	12.0	6.8	11.8	11.3	11.5	11.6	8.3	8.3	7.5	8.5	8.7	8.1	7.9	8.5	8.7	9.0r	8.8r	7.3
Scrap	16.5	16.0	17.3	17.7	11.6	16.8	18.3	18.5	18.1	12.8	12.9	10.1	13.2	13.1	12.2	11.9	12.8	13.1	13.5r	13.2r	11.0
Total	23.7	25.5	30.0	29.7	18.4	28.6	29.6	30.0	29.7	21.1	21.2	17.6	21.7	21.8	20.3	19.8	21.3	21.8	22.5r	22.0r	18.3
Other Industries [a,c]																					
Refined	11.1	10.7	12.2	9.1	9.0	8.4	13.0	24.6	22.0	20.0	16.1	14.6	16.6	12.2	16.7	17.6	18.1	18.5	18.7r	18.4r	15.3
Scrap	63.2	76.4	65.3	56.9	57.5	77.7	88.1	100.5	107.9	102.1	104.2	66.1	59.3	66.6	61.7	64.7	66.6	68.2	69.9r	68.5r	56.6
Total	74.3	87.1	77.5	66.0	66.5	86.1	101.1	125.1	129.9	122.1	120.3	80.7	75.9	78.8	78.4	82.3	84.7	86.7	88.6r	86.9r	71.9
All Industries																					
Refined (Table 1, Item 16)	**2,021.0**	**2,237.6**	**2,448.3**	**2,203.5**	**1,542.3**	**1,997.5**	**2,193.2**	**2,421.7**	**2,386.0**	**2,058.8**	**2,237.1**	**1,834.4**	**1,996.8**	**2,339.9**	**2,158.3**	**2,314.8**	**2,344.3**	**2,431.6**	**2,431.5r**	**2,363.7r**	**2,253.0**
Scrap (Table 2, Item 9)	**947.6**	**1,043.0**	**1,054.5**	**968.0**	**730.3**	**882.5**	**934.5**	**971.4**	**1,085.2**	**948.2**	**974.1**	**769.7**	**864.1**	**967.2**	**884.2**	**919.9**	**967.2**	**1,048.1**	**1,030.7r**	**1,043.0r**	**931.0**
TOTAL COPPER CONSUMED (Table 3, Item 3)	**2,968.6**	**3,280.6**	**3,502.8**	**3,171.5**	**2,272.6**	**2,880.0**	**3,127.7**	**3,393.1**	**3,471.2**	**3,007.0**	**3,211.2**	**2,604.1**	**2,860.9**	**3,307.1**	**3,042.5**	**3,234.7**	**3,311.5**	**3,479.7**	**3,462.2r**	**3,406.7r**	**3,184.0**

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.

p - preliminary r - revised

(a) - Direct consumption only; not including consumption of copper in ingots from ingot makers.

(b) - Ingot makers consume refined copper, scrap copper and alloying metal, and ship to foundries, brass mills, powder plants and other industries.

(c) - Chemical, steel, aluminum and other industries.

Table 3, Item 8.

Consumption of alloying metal by brass mills, ingot makers, foundries and powder plants

ALLOYING METAL CONTENT, thousands of short tons

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Consumption of Alloying Metal by																					
Brass Mills [a]																					
Zinc-Slab	134.8	177.4	183.6	167.6	104.8	153.1	154.5	162.2	167.0	138.0	147.9	111.7	130.6	151.5	120.1	123.8	138.7	146.1	135.7	131.8	131.0
Zinc in Scrap	129.8	156.2	149.2	132.6	94.7	124.5	125.5	139.8	147.3	122.1	122.3	98.9	128.0	148.5	117.7	121.3	135.9	143.2	133.0	129.1	128.3
Lead-Refined	3.1	3.8	4.9	4.1	2.0	3.5	3.3	3.7	3.9	2.7	2.8	1.6	3.2	3.7	3.0	3.1	3.5	3.7	3.4	3.3	3.3
Lead in Scrap	2.9	3.6	3.6	3.3	2.3	3.4	4.5	3.8	4.0	3.3	3.1	2.4	3.4	3.9	3.2	3.3	3.7	3.9	3.6	3.5	3.5
Tin-Refined	1.1	1.0	1.1	1.1	0.6	0.8	0.7	0.8	0.8	0.8	0.8	0.4	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.5	0.5
Tin in Scrap	0.4	0.5	0.5	0.5	0.3	0.3	0.6	0.5	0.5	0.4	0.3	0.4	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.5	0.5
Nickel-Refined	6.1	6.5	5.4	7.1	7.5	5.5	4.6	4.8	7.6	8.4	11.3	3.5	5.3	6.1	5.0	5.2	5.8	6.1	5.7	5.5	5.5
Nickel in Scrap	4.7	4.1	10.5	4.2	4.1	3.8	3.1	2.2	3.1	1.8	2.6	1.9	3.2	3.7	3.0	3.1	3.5	3.7	3.4	3.3	3.3
Total	282.9	353.1	358.8	320.5	216.3	294.9	296.8	317.8	334.2	277.5	291.1	220.8	274.7	318.6	253.0	260.8	292.1	307.9	285.8	277.5	275.9
Ingot Makers																					
Zinc-Slab	10.4	7.1	6.9	8.2	6.6	7.7	8.3	7.3	7.5	18.9	22.2	14.6	18.1	22.7	20.8	20.6	20.7	21.9	22.4r	21.9r	18.2
Zinc in Scrap	31.2	33.9	29.4	28.2	20.8	26.8	29.1	25.0	25.2	9.9	12.2	14.2	17.6	22.1	20.3	20.1	20.2	21.4	21.9r	21.5r	17.8
Lead in Scrap	16.8	16.2	18.0	18.1	13.4	16.9	19.7	19.2	19.4	17.1	17.5	16.5	16.8	21.0	19.3	19.1	19.2	20.3	20.8r	20.4r	16.9
Tin in Scrap	11.5	19.1	12.5	12.5	9.3	11.4	13.3	12.4	12.5	11.0	11.3	9.2	9.4	11.8	10.8	10.7	10.8	11.4	11.7r	11.5r	9.5
Nickel in Scrap	0.7	0.6	1.3	0.7	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
Total	70.6	76.9	68.1	67.7	50.5	63.2	70.8	64.3	65.1	57.3	63.6	54.9	62.3	78.1	71.7	71.0	71.4	75.5	77.3r	75.8r	62.8
Foundries [a]																					
Zinc-Slab	4.5	6.8	6.0	4.4	3.1	4.2	4.5	4.5	4.0	3.1	3.2	2.4	2.5	2.8	2.6	2.6	2.7	2.8	2.9r	2.8r	2.3
Zinc in Scrap	2.7	2.8	2.7	3.5	3.0	4.1	4.2	5.6	5.2	4.2	4.0	3.2	3.3	3.7	3.4	3.4	3.5	3.6	3.7r	3.6r	3.0
Lead in Scrap	2.8	2.5	2.3	2.6	2.0	2.2	2.5	3.4	3.5	2.6	2.6	1.9	1.9	2.2	2.0	2.0	2.1	2.2	2.3r	2.2r	1.8
Tin in Scrap	1.1	1.0	1.0	1.1	0.9	0.9	1.1	1.6	1.6	1.3	1.4	1.1	1.3	1.5	1.4	1.4	1.4	1.5	1.5r	1.5r	1.2
Total	11.1	13.1	12.0	11.5	9.0	11.4	12.3	15.5	14.3	11.2	11.2	8.6	9.0	10.2	9.4	9.4	9.7	10.1	10.4r	10.1r	8.3
Powder Plants [a]																					
Zinc-Slab	0.7	0.7	1.1	1.3	0.8	1.2	1.6	1.6	1.6	1.1	1.1	0.9	1.1	1.1	1.0	1.0	1.1	1.1	1.1	1.1	0.9
Zinc in Scrap	2.2	2.1	2.1	1.4	0.9	1.5	1.1	1.4	1.1	0.8	0.8	0.7	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7
Tin-Refined	1.1	1.0	1.2	1.0	0.6	1.0	1.0	1.1	1.0	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6
Total	4.0	3.8	4.4	3.7	2.3	3.7	3.7	4.1	3.7	2.6	2.6	2.2	2.7	2.7	2.5	2.5	2.6	2.6	2.6	2.6	2.2
All Industries																					
Zinc-Slab	**150.4**	**192.0**	**197.6**	**181.5**	**115.3**	**166.2**	**168.9**	**176.0**	**180.1**	**161.1**	**174.4**	**129.6**	**152.3**	**178.1**	**144.5**	**148.0**	**163.2**	**171.9**	**162.1r**	**157.6r**	**152.4**
Zinc in Scrap	**165.9**	**195.0**	**183.4**	**165.7**	**119.4**	**156.9**	**159.9**	**171.8**	**178.8**	**137.0**	**139.3**	**117.0**	**149.8**	**175.2**	**142.2**	**145.6**	**160.4**	**169.0**	**159.4r**	**155.0r**	**149.8**
Lead-Refined	**3.1**	**3.8**	**4.9**	**4.1**	**2.0**	**3.5**	**3.3**	**3.7**	**3.9**	**2.7**	**2.8**	**1.6**	**3.2**	**3.7**	**3.0**	**3.1**	**3.5**	**3.7**	**3.4**	**3.3**	**3.3**
Lead in Scrap	**22.5**	**22.3**	**23.9**	**24.0**	**17.7**	**22.5**	**26.7**	**26.4**	**26.9**	**23.0**	**23.2**	**20.8**	**22.1**	**27.1**	**24.5**	**24.4**	**25.0**	**26.4**	**26.7r**	**26.1r**	**22.2**
Tin-Refined	**2.2**	**2.0**	**2.3**	**2.1**	**1.2**	**1.8**	**1.7**	**1.9**	**1.8**	**1.5**	**1.5**	**1.0**	**1.2**	**1.3**	**1.2**	**1.2**	**1.2**	**1.3**	**1.2**	**1.2**	**1.1**
Tin in Scrap	**13.0**	**20.6**	**14.0**	**14.1**	**10.5**	**12.6**	**15.0**	**14.5**	**14.6**	**12.7**	**13.0**	**10.7**	**11.2**	**13.9**	**12.7**	**12.6**	**12.7**	**13.5**	**13.7r**	**13.5r**	**11.2**
Nickel-Refined	**6.1**	**6.5**	**5.4**	**7.1**	**7.5**	**5.5**	**4.6**	**4.8**	**7.6**	**8.4**	**11.3**	**3.5**	**5.3**	**6.1**	**5.0**	**5.2**	**5.8**	**6.1**	**5.7**	**5.5**	**5.5**
Nickel in Scrap	**5.4**	**4.7**	**11.8**	**4.9**	**4.5**	**4.2**	**3.5**	**2.6**	**3.6**	**2.2**	**3.0**	**2.3**	**3.6**	**4.2**	**3.5**	**3.6**	**4.0**	**4.2**	**3.9**	**3.8**	**3.7**
TOTAL ALLOYING METAL CONSUMED (Table 3, Item 8)	**368.6**	**446.9**	**443.3**	**403.5**	**278.1**	**373.2**	**383.6**	**401.7**	**417.3**	**348.6**	**368.5**	**286.5**	**348.7**	**409.6**	**336.6**	**343.7**	**375.8**	**396.1**	**378.1r**	**366.0r**	**349.2**

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.

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(a) - Direct consumption only; not including consumption of alloying metal in ingots from ingot makers.

Table 3, Item 12.

Net consumption of metals by wire rod mills, brass mills, foundries, powder plants, and other industries

	METAL CONTENT, thousands of short tons																				
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Net Metal Consumed by:																					
Wire Rod Mills-Copper (Table 3, Item 13)	1,338.9r	1,542.6r	1,689.6r	1,490.2r	1,072.7r	1,378.6r	1,526.2r	1,688.0r	1,670.1r	1,457.8r	1,613.7r	1,371.6r	1,415.0r	1,675.0r	1,560.0r	1,660.5r	1,773.6r	1,862.2r	1,903.3r	1,849.7r	1,774.4
Brass Mills																					
Copper	1,138.4r	1,229.3r	1,309.6r	1,217.3r	833.9r	1,089.5r	1,145.5r	1,209.0r	1,263.5r	1,081.3r	1,134.6r	869.0r	1,077.1r	1,202.5r	1,080.9r	1,169.6r	1,127.9r	1,190.2r	1,121.2r	1,128.1r	1,054.5
Alloy	282.9	353.1	358.8	320.5	216.3	294.9	296.8	317.8	334.2	277.5	291.1	220.8	274.7	318.6	253.0	260.8	292.1	307.9	285.8	277.5	275.9
Ingot	13.2	16.7	14.5	23.9	5.6	8.3	7.3	7.5	4.5	6.8	19.6	14.0	16.3	18.3	14.7	16.9	16.8	17.8	16.8	16.7r	15.7
Total (Table 3, Item 16)	1,434.5r	1,599.1r	1,682.9r	1,561.7r	1,055.8r	1,392.7r	1,449.6r	1,534.3r	1,602.2r	1,365.6r	1,445.3r	1,103.8r	1,368.1r	1,539.4r	1,348.6r	1,447.3r	1,436.8r	1,515.9r	1,423.8r	1,422.3r	1,346.1
Foundries																					
Copper	130.9	139.6	153.3	144.1	112.6	116.7	123.7	127.3	132.9	105.2	102.4	87.2	89.9	101.9	94.6	96.1	96.6	99.4	101.9r	99.8r	82.3
Alloy	11.1	13.1	12.0	11.6	9.0	11.4	12.3	15.5	14.3	11.2	11.2	8.6	9.0	10.2	9.4	9.4	9.7	10.1	10.4r	10.1r	8.3
Ingot	222.6	241.3	239.6	224.6	154.4	171.3	190.2	203.4	206.3	181.1	178.8	139.9	145.0	149.2	138.4	140.4	141.5	145.8	149.5r	146.3r	120.6
Total (Table 3, Item 19)	364.6	394.0	404.9	380.3	276.0	299.4	326.2	346.2	353.5	297.5	292.4	235.7	243.9	261.3	242.4	245.9	247.8	255.3	261.8r	256.2r	211.2
Powder Plants																					
Copper	23.7	25.5	30.0	29.7	18.4	28.6	29.6	30.0	29.7	21.1	21.2	17.6	21.7	21.8	20.3	19.8	21.3	21.8	22.5r	22.0r	18.3
Alloy	4.0	3.8	4.4	3.7	2.3	3.7	3.7	4.1	3.7	2.6	2.6	2.2	2.7	2.7	2.5	2.5	2.6	2.6	2.6	2.6	2.2
Ingot	4.6	5.3	6.9	3.2	1.1	2.1	3.2	3.3	3.2	2.3	2.3	1.9	2.4	2.4	2.2	2.2	2.3	2.4	2.4r	2.4r	2.0
Total (Table 3, Item 22)	32.3	34.6	41.3	36.6	21.8	34.4	36.5	37.4	36.6	26.0	26.1	21.7	26.8	26.9	25.0	24.5	26.2	26.8	27.5r	27.0r	22.5
Other Industries [a]																					
Copper	74.3	87.1	77.5	66.0	66.5	86.1	101.1	125.1	129.9	122.1	120.3	80.7	75.9	78.8	78.4	82.3	84.7	86.7	88.6r	86.9r	71.9
Ingot	36.0	38.0	39.0	33.0	33.2	54.8	57.5	42.4	52.2	45.4	38.9	36.0	33.8	35.1	34.9	36.6	37.7	38.6	39.4r	38.6r	31.9
Total (Table 3, Item 25)	110.3	125.1	116.5	99.0	99.7	140.9	158.6	167.5	182.1	167.5	159.2	116.7	109.7	113.9	113.3	118.9	122.4	125.3	128.0r	125.5r	103.8
All Industries																					
Copper	**2,706.2**	**3,024.1**	**3,260.0**	**2,947.3**	**2,104.1**	**2,699.5**	**2,926.1**	**3,179.4**	**3,226.1**	**2,787.5**	**2,992.2**	**2,426.1**	**2,679.6**	**3,080.0**	**2,834.2**	**3,028.3**	**3,104.1**	**3,260.3**	**3,237.5r**	**3,186.5r**	**3,001.4**
Alloy	**298.0**	**370.0**	**375.2**	**335.8**	**227.6**	**310.0**	**312.8**	**337.4**	**352.2**	**291.3**	**304.9**	**231.6**	**286.4**	**331.5**	**264.9**	**272.7**	**304.4**	**320.6**	**298.8r**	**290.2r**	**286.4**
Ingot (Table 3, Item 10) [b]	**276.4**	**301.3**	**300.0**	**284.7**	**194.3**	**236.5**	**258.2**	**256.6**	**266.2**	**235.6**	**239.6**	**191.8**	**197.5**	**205.0**	**190.2**	**196.1**	**198.3**	**204.6**	**208.1r**	**204.0r**	**170.2**
NET METAL CONSUMED (Table 3, Item 12)	**3,280.6**	**3,695.4**	**3,935.2**	**3,567.8**	**2,526.0**	**3,246.0**	**3,497.1**	**3,773.4**	**3,844.5**	**3,314.4**	**3,536.7**	**2,849.5**	**3,163.5**	**3,616.5**	**3,289.3**	**3,497.1**	**3,606.8**	**3,785.5**	**3,744.4r**	**3,680.7r**	**3,458.0**

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.

p - preliminary r - revised

(a) - Chemical, steel, aluminum and other industries.

(b) - Total consumption of ingot shown here is less than the consumption of metal by ingot makers shown in the details of Table 3, Item 3 and Table 3, Item 8. The difference, shown as Ingot Stocks & Other in Table 3, is partially melting and other losses in the making of ingot.

Table 4

Supply of wire mill, brass mill, foundry and powder products and their consumption in the end-use markets

	METAL CONTENT, millions of pounds																				
	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
(1) Bare Wire	218	270	209	219	167	199	230	238	236	197	220	179	158	147	119	136	161	172	182	181	172
(2) Communication Wire and Cable	803	766	873	799	584	687	836	885	971	850	851	751	683	727	629	611	674	673	618r	608r	578
(3) Building Wire	552	580	666	557	483	545	658	718	695	628	660	701	739	888	961	1,015	1,181	1,121	1,092r	1,144r	1,005
(4) Magnet Wire	427	496	537	446	338	451	516	525	531	443	492	396	444	511	472	470	461	523	519	503r	507
(5) Power Cable	247	273	306	303	222	214	241	245	270	280	275	247	218	243	259	255	268	289	339r	314r	251
(6) Apparatus Wire and Cordage	137	169	185	177	139	161	196	202	202	205	189	157	199	227	203	203	231	199	197r	176r	178
(7) Automotive Wire and Cable (except Magnet)	71	80	88	72	69	92	108	121	112	89	95	105	139	186	214	228	217	239	243	228	217
(8) Other Insulated Wire and Cable	58	79	68	78	75	67	72	81	77	85	93	94	73	81	71	82	94	70	72r	88r	84
(9) Total Insulated Wire and Cable	2,295	2,443	2,723	2,432	1,910	2,217	2,627	2,777	2,858	2,580	2,655	2,451	2,495	2,863	2,809	2,864	3,126	3,114	3,080r	3,061r	2,820
(10) Total Wire Mill Products [a]	**2,513**	**2,713**	**2,932**	**2,651**	**2,077**	**2,416**	**2,857**	**3,015**	**3,094**	**2,777**	**2,875**	**2,630**	**2,653**	**3,010**	**2,928**	**3,000**	**3,287**	**3,286**	**3,262r**	**3,242r**	**2,992**
(11) Strip, Sheet, Plate and Foil	997	1,110	1,206	1,095	850	993	1,004	1,060	1,105	906	997	754	838	997	765	807	915	989	914	891	857
(12) Mechanical Wire	111	128	126	105	65	92	94	104	112	80	82	61	69	73	63	66	67	69	68	67	66
(13) Rod and Bar	744	910	1,005	899	587	826	900	943	962	810	814	620	770	876	788	798	913	949	885	861	854
(14) Plumbing Tube and Pipe	447	463	519	347	310	374	439	459	483	414	401	369	447	502	524	548	593	529	532	526	486
(15) Commercial Tube and Pipe	418	432	463	411	268	331	340	376	420	356	371	257	301	341	319	330	362	384	402	295	310
(16) Total Brass Mill Products (page 19)	**2,717**	**3,043**	**3,319**	**2,857**	**2,080**	**2,616**	**2,777**	**2,942**	**3,082**	**2,566**	**2,665**	**2,061**	**2,425**	**2,789**	**2,459**	**2,549**	**2,850**	**2,920**	**2,801**	**2,640**	**2,573**
(17) Total Foundry Products	**733**	**784**	**820**	**732**	**631**	**606**	**642**	**662**	**726**	**572**	**564**	**444**	**498**	**504**	**470**	**476**	**477**	**500**	**474r**	**431r**	**415**
(18) Total Powder Products	**52**	**54**	**64**	**69**	**46**	**65**	**64**	**56**	**54**	**38**	**44**	**34**	**39**	**43**	**37**	**35**	**39**	**44**	**41**	**38**	**36**
(19) Domestic Products - Total	**6,015**	**6,594**	**7,135**	**6,309**	**4,834**	**5,703**	**6,340**	**6,675**	**6,956**	**5,953**	**6,148**	**5,169**	**5,615**	**6,346**	**5,894**	**6,060**	**6,653**	**6,750**	**6,578r**	**6,351r**	**6,016**
(20) Net Imports of Mill Products (page 20)	**170**	**229**	**191**	**92**	**50**	**226**	**202**	**315**	**215**	**16**	**247**	**224**	**338**	**565**	**503**	**524**	**455**	**350**	**270**	**178r**	**38**
(21) Mill Products to Domestic Market*	**6,185**	**6,823**	**7,326**	**6,401**	**4,884**	**5,929**	**6,542**	**6,990**	**7,171**	**5,969**	**6,395**	**5,393**	**5,953**	**6,911**	**6,397**	**6,584**	**7,108**	**7,100**	**6,848r**	**6,529r**	**6,054**
(22) Building Construction	2,021	2,218	2,389	1,935	1,556	1,874	2,123	2,291	2,320	1,935	2,037	1,857	2,197	2,568	2,587	2,719	3,047	2,908	2,796r	2,679r	2,451
(23) Electrical and Electronic Products	1,652	1,749	1,880	1,721	1,176	1,495	1,694	1,803	1,915	1,666	1,772	1,489	1,517	1,699	1,472	1,533	1,633	1,660	1,632r	1,599r	1,477
(24) Industrial Machinery and Equipment	1,029	1,164	1,241	1,115	821	964	1,044	1,139	1,159	1,009	1,084	849	906	995	898	899	942	993	967r	898r	815
(25) Transportation Equipment	741	807	922	774	631	869	943	931	908r	637	712	568	708	891	814	814	817	844	791r	741r	700
(26) Consumer and General Products	742	885	894	856	700	727	738	826	869	722	790	630	625	758	626	619	669	695	662r	612r	611

*Markets include - Building Construction: Building Wiring; Plumbing & Heating; Air Conditioning & Commercial Refrigeration; Builders' Hardware; Architectural.
Electrical & Electronic Products: Power Utilities; Telecommunications; Business Electronics; Lighting & Wiring Devices.
Industrial Machinery & Equipment: In-Plant Equipment; Industrial Valves & Fittings; Non-Electrical Instruments; Off-Highway Vehicles; Heat Exchangers.
Transportation Equipment: Automobile, Truck & Bus; Railroad; Marine; Aircraft & Aerospace.
Consumer & General Products: Appliances; Cord Sets; Military & Commercial Ordnance; Consumer Electronics; Fasteners & Closures; Coinage; Utensils & Cutlery; Miscellaneous.

Sources: U.S. Department of Commerce, Bureau of the Census; IPC Technology/Marketing Research Council (Line 11-1983 on); Metal Powder Producers Assn. (Line 18-1978 on); CDA.
p - preliminary r - revised
(a) - Copper content.

Table 4, Item 16.

Supply of brass mill products in the United States

METAL CONTENT, millions of pounds

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Strip, Sheet, Plate and Foil																					
Copper	269	274	315	297	230	255	264	267	297	234	262	202	245	302	242	248	289	302	287	287	256
Alloy	728	836	891	798	620	738	740	793	808	672	735	552	593	695	523	559	626	687	627	604	601
Total	997	1,110	1,206	1,095	850	993	1,004	1,060	1,105	906	997	754	838	997	765	807	915	989	914	891	857
Mechanical Wire																					
Copper	16	20	14	15	7	10	14	20	26	14	16	15	13	12	11	12	13	11	12	13	17
Alloy	95	108	112	90	58	82	80	84	86	66	66	46	56	61	52	54	54	58	56	54	49
Total	111	128	126	105	65	92	94	104	112	80	82	61	69	73	63	66	67	69	68	67	66
Rod and Bar																					
Copper	109	117	135	149	77	100	112	116	117	111	112	83	82	93	95	93	112	130	125	132	119
Alloy	635	793	870	750	510	726	788	827	845	699	702	537	688	783	693	705	801	819	760	729	735
Total	744	910	1,005	899	587	826	900	943	962	810	814	620	770	876	788	798	913	949	885	861	854
Plumbing Tube and Pipe																					
Copper	431	446	502	335	302	366	432	451	475	407	393	364	441	496	519	545	589	524	529	520	482
Alloy	16	17	17	12	8	8	7	8	8	7	8	5	6	6	5	3	4	5	3	6	4
Total	447	463	519	347	310	374	439	459	483	414	401	369	447	502	524	548	593	529	532	526	486
Commercial Tube and Pipe																					
Copper	288	305	322	265	171	221	239	280	322	273	284	195	234	277	267	276	305	328	347	243	257
Alloy	130	127	141	146	97	110	101	96	98	83	87	62	67	64	52	54	57	56	55	52	53
Total	418	432	463	411	268	331	340	376	420	356	371	257	301	341	319	330	362	384	402	295	310
All Mill Products																					
Copper	**1,113**	**1,162**	**1,288**	**1,061**	**787**	**952**	**1,061**	**1,134**	**1,237**	**1,039**	**1,067**	**859**	**1,015**	**1,180**	**1,134**	**1,174**	**1,308**	**1,295**	**1,300**	**1,195**	**1,131**
Alloy	**1,604**	**1,881**	**2,031**	**1,796**	**1,293**	**1,664**	**1,716**	**1,808**	**1,845**	**1,527**	**1,598**	**1,202**	**1,410**	**1,609**	**1,325**	**1,375**	**1,542**	**1,625**	**1,501**	**1,445**	**1,442**
TOTAL BRASS MILL PRODUCTS	**2,717**	**3,043**	**3,319**	**2,857**	**2,080**	**2,616**	**2,777**	**2,942**	**3,082**	**2,566**	**2,665**	**2,061**	**2,425**	**2,789**	**2,459**	**2,549**	**2,850**	**2,920**	**2,801**	**2,640**	**2,573**

Source: CDA ; IPC Technology/Marketing Research Council (Copper Foil- 1983 on).

Supply of brass mill products in selected countries

METAL CONTENT, millions of pounds

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Benelux	NA	NA	329	304	258	316	335	306	314	299	266	232	209	235	234	210	168	201	220r	247r	243
Canada	221	236	281	264	192	223	232	272	264	191	229	155	183	206	195	196	224	223	200	NA	NA
France	580	598	667	603	476	569	586	590	638	657	615	600	567	617	561	546	543r	609r	619r	618r	612
Germany	986	1,130	1,311	1,157	932	1,219	1,207	1,219	1,337	1,403	1,277	1,256	1,378	1,546	1,511	1,560	1,621	1,748	1,798	1,805	1,911
Italy	494	572	626	654	520	647	639	652	650	734	694	668	697	767	809	873	922	1,087	1,186	1,211	1,334
Japan	1,152	1,330	1,682	1,298	1,148	1,546	1,573	1,722	1,874	1,912	1,832	1,741	1,909	2,181	2,095	2,112	2,261	2,393	2,495	2,573	2,716
Scandinavia	260	286	316	316	247	285	295	321	348	340	320	324	346	380	357	372	389	410	411	433	390
South Korea [a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	190	271	284	290	297	333	365
Spain	133	167	193	181	133	178	183	174	191	184	148	172	164	166	163	167	178	192	196	188	189
Switzerland	104	100	114	118	81	96	116	105	111	120	106	98	106	121	123	116	110	107	103	99	91
United Kingdom	842	905	1,004	903	737	803	827	845	797	644	563	597	565	620	601	577	577	568	544	521	454
United States	2,717	3,043	3,319	2,857	2,080	2,616	2,777	2,942	3,082	2,566	2,665	2,061	2,425	2,789	2,459	2,549	2,850	2,920	2,801	2,640	2,573

Sources: World Bureau of Metal Statistics; CDA.
p - preliminary r - revised NA - not available (a) - Copper only.

Table 4, Item 20.

Imports and exports of wire mill, brass mill and powder products

METAL CONTENT, millions of pounds

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991p
Imports of:																					
Wire Rod	3.0	3.0	5.3	2.8	1.5	2.5	13.8	7.0	6.2	5.4	6.0	7.4	8.6	18.1	22.8	28.2	22.4	15.5	2.1	4.8	1.6
Bare Wire (including Stranded)[a]	} 27.0 {	19.3	26.9	42.9	22.0	39.0	27.5	32.8	30.8	18.9	22.3	26.6	35.0	38.7	42.6	50.6	43.4	39.5	36.7	36.3	23.3
Insulated Wire and Cable		23.9	28.9	25.5	19.1	22.7	23.0	37.7	48.5	45.1	39.8	41.3	59.0	90.0	107.2	120.6	135.6	138.5	114.9	106.9	89.9
Total Wire Mill Products	**30.0**	**46.2**	**61.1**	**71.2**	**42.6**	**64.2**	**64.3**	**77.5**	**85.5**	**69.4**	**68.1**	**75.3**	**102.6**	**146.8**	**172.6**	**199.4**	**201.4**	**193.5**	**153.7**	**148.0**	**114.8**
Copper-Strip, Sheet, Plate and Foil	38.7	45.7	48.7	46.9	37.8	59.9	64.7	85.8	80.1	54.1	71.8	59.1	67.6	103.8	82.4	77.3	80.7	83.0	75.9	86.2	79.2
Rod and Bar	4.1	6.1	6.0	6.7	4.2	6.6	8.0	17.5	17.0	12.0	12.4	9.3	9.2	13.1	14.0	10.7	11.0	17.4	11.5	8.4	8.5
Tube and Pipe	43.1	51.6	55.0	31.3	24.3	33.7	39.9	46.3	44.8	22.9	33.8	35.7	55.1	65.8	65.1	85.2	99.1	92.6	72.9	46.6	28.8
Alloy-Strip, Sheet, Plate and Foil	74.4	92.4	84.9	57.2	51.4	104.6	105.7	153.7	121.5	81.3	140.7	124.3	158.5	232.0	191.4	172.7	145.1	123.6	108.5	98.1	83.9
Mechanical Wire	4.0	4.3	5.7	4.1	2.6	6.3	7.9	9.9	9.7	7.9	10.4	10.3	11.7	14.8	13.2	22.8	24.5	26.0	26.8	25.3	21.7
Rod and Bar	7.3	12.5	17.9	16.2	11.7	41.7	33.4	51.9	48.3	26.3	121.9	51.4	47.8	83.0	51.0	55.8	64.6	74.6	75.7	61.2	44.3
Tube and Pipe	47.6	53.1	48.2	40.4	32.4	47.3	47.2	69.5	54.4	43.6	51.5	45.5	54.7	71.8	64.0	62.8	61.3	60.8	66.9	57.4	51.2
Total Brass Mill Products	**219.2**	**265.7**	**266.4**	**202.8**	**164.4**	**300.1**	**306.8**	**434.6**	**375.8**	**248.1**	**442.5**	**335.6**	**404.6**	**584.3**	**481.1**	**487.3**	**486.3**	**478.0**	**438.2**	**383.2**	**317.6**
Total Powder Products	**2.4**	**2.7**	**2.3**	**1.7**	**1.6**	**2.6**	**2.4**	**2.5**	**2.3**	**2.0**	**2.7**	**2.3**	**3.1**	**3.3**	**2.5**	**2.8**	**2.5**	**3.2**	**3.0**	**3.3**	**3.1**
TOTAL IMPORTS	**251.6**	**314.6**	**329.8**	**275.7**	**208.6**	**366.9**	**373.5**	**514.6**	**463.6**	**319.5**	**513.3**	**413.2**	**510.3**	**734.4**	**656.2**	**689.5**	**690.2**	**674.7**	**594.9**	**534.5**	**435.5**
Exports of:																					
Wire Rod	14.6	10.9	10.4	14.0	10.9	8.5	11.2	13.0	30.9	53.5	30.7	18.2	12.5	13.2	5.2	16.8	23.0	35.0	31.0	22.8	20.0
Bare Wire (including Stranded)[a]	2.9	5.5	10.4	11.3	7.4	9.6	11.7	18.7	18.8	13.9	15.5	16.7	18.3	19.4	17.6	15.8	22.5	27.4	47.6	51.6	59.9
Insulated Wire and Cable	29.8	31.9	44.0	65.4	84.0	70.6	96.9	102.1	93.8	73.5	94.3	76.0	72.5	66.8	55.8	66.7	97.8	129.8	94.2	104.0	131.4
Total Wire Mill Products	**47.3**	**48.3**	**64.8**	**90.7**	**102.3**	**88.7**	**119.8**	**133.8**	**143.5**	**140.9**	**140.5**	**110.9**	**103.3**	**99.4**	**78.6**	**99.3**	**143.3**	**192.2**	**172.8**	**178.4**	**211.3**
Copper-Strip, Sheet, Plate and Foil	1.5	0.9	1.8	2.2	0.8	1.4	4.2	2.9	3.3	6.7	7.3	4.3	3.1	8.7	8.1	2.7	3.4	10.5	8.6	16.0r	18.3
Rod and Bar	0.9	1.7	4.4	2.7	8.1	1.4	2.6	6.0	12.0	37.0	10.0	13.8	4.0	3.1	2.8	2.0	8.2	3.0	4.0	5.0	4.4
Tube and Pipe	2.5	2.3	15.5	13.5	4.4	5.1	6.2	5.8	18.8	38.9	24.1	10.1	8.0	9.5	10.0	11.8	14.3	22.1	44.7	35.3	44.6
Alloy-Strip, Sheet, Plate and Foil	4.2	7.9	12.2	14.5	6.4	8.3	8.6	9.0	10.4	17.3	28.4	10.2	11.6	11.7	15.8	11.4	16.9	34.5	21.2	36.9	34.2
Mechanical Wire	3.5	2.5	3.6	8.4	5.0	4.8	4.2	6.9	8.2	8.0	7.9	12.5	11.6	9.1	10.5	11.1	14.5	16.7	8.6	14.5	19.4
Rod and Bar	12.9	14.3	17.4	30.4	15.5	15.2	15.8	19.3	15.2	20.1	18.6	11.0	15.6	16.3	14.6	14.9	16.7	24.5	50.3	54.2	44.8
Tube and Pipe	5.1	4.1	13.7	16.0	13.2	12.4	7.0	12.0	32.9	31.0	26.6	14.1	13.9	10.0	9.9	9.7	12.9	15.6	9.4	11.2	12.9
Total Brass Mill Products	**30.6**	**33.7**	**68.6**	**87.7**	**53.4**	**48.6**	**48.6**	**61.9**	**100.8**	**159.0**	**122.9**	**76.0**	**67.8**	**68.4**	**71.7**	**63.6**	**86.9**	**126.9**	**146.8**	**173.1r**	**178.6**
Total Powder Products	**3.9**	**3.7**	**5.0**	**5.4**	**2.5**	**3.7**	**3.5**	**3.8**	**3.9**	**3.9**	**2.5**	**2.1**	**1.7**	**1.9**	**2.5**	**3.0**	**4.9**	**5.8**	**5.4**	**5.4**	**7.3**
TOTAL EXPORTS	**81.8**	**85.7**	**138.4**	**183.8**	**158.2**	**141.0**	**171.9**	**199.5**	**248.2**	**303.8**	**265.9**	**189.0**	**172.8**	**169.7**	**152.8**	**165.9**	**235.1**	**324.9**	**325.0**	**356.9r**	**397.2**
NET IMPORTS (Table 4, Item 20)	**169.8**	**228.9**	**191.4**	**91.9**	**50.4**	**225.9**	**201.6**	**315.1**	**215.4**	**15.7**	**247.4**	**224.2**	**337.5**	**564.7**	**503.4**	**523.6**	**455.1**	**349.8**	**269.9**	**177.6r**	**38.3**

Sources: U.S. Department of Commerce, Bureau of the Census; Copper & Brass Fabricators Council, Inc.; CDA.

p - preliminary r - revised

(a) - Stranded not included prior to 1972.

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